

## Message Text

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PAGE 01 STATE 309491  
ORIGIN EUR-12

INFO OCT-01 ISO-00 FEA-01 ERDA-05 AID-05 CEA-01 CIAE-00  
CIEP-01 COME-00 DODE-00 EB-07 FPC-01 H-01 INR-07  
INT-05 L-03 NSAE-00 NSC-05 OMB-01 PM-04 USIA-06  
OES-06 SP-02 SS-15 STR-04 TRSE-00 ACDA-07 PA-01  
PRS-01 IO-13 /115 R

DRAFTED BY EUR/CE:RCASAGRANDE:EM  
APPROVED BY EUR:RDVINE  
OES:MR. IRVING (SUBSTANCE)  
OES - MR. KRATZER (SUBSTANCE)  
EUR/CE: LHEICHLER

----- 099996 /63

P 222308Z DEC 76  
FM SECSTATE WASHDC  
TO AMEMBASSY BERN PRIORITY

C O N F I D E N T I A L STATE 309491

E.O. 11652: GDS

TAGS: ENRG, TECH, PFOR, SZ

SUBJECT: SPENT FUEL TRANSFER FROM MUEHLEBERG POWER STATION

1. FOLLOWING ARE VERBATIM TEXTS OF STATEMENT AND MEMO-  
RANDUM PRESENTED TO OES ASSISTANT SECRETARY IRVING AND  
DEPUTY ASSISTANT SECRETARY KRATZER BY AMBASSADOR PROBST  
DECEMBER 22.

BEGIN TEXT:

STATEMENT

1. STATUS OF RATIFICATION OF THE TREATY ON THE NON-  
PROLIFERATION OF NUCLEAR WEAPONS (IN SHORT NPT, BY  
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PAGE 02 STATE 309491

SWITZERLAND

1.1 SWITZERLAND SIGNED THE NPT ON NOVEMBER 27, 1969  
1.2 THE RATIFICATION PROCEDURE IS ALMOST COMPLETE. THE  
AMBASSADOR OF SWITZERLAND TO THE UNITED STATES WILL HAVE  
THE PRIVILEGE TO DEPOSIT THE INSTRUMENTS OF RATIFICATION

IN THE NEAR FUTURE.

1.3 IN FACT, THE COUNCIL OF STATES, WHICH CORRESPONDS TO THE US SENATE, DECLARED ITSELF IN FAVOR OF RATIFICATION

ON JUNE 24, 1976 BY A WIDE MAJORITY. THE NATIONAL COUNCIL, THE EQUIVALENT OF THE US HOUSE OF REPRESENTATIVES FOLLOWED SUIT LAST DECEMBER 14, ALSO BY A VAST MAJORITY. AS THE LEGAL HURDLES TO RATIFICATION OF THE NPT HAVE NOW BEEN CLEARED, THE SWISS GOVERNMENT PLANS TO PROCEED SPEEDILY.

## 2. BILATERAL COOPERATION

2.1 THE BILATERAL AGREEMENT (AGREEMENT FOR COOPERATION BETWEEN THE GOVERNMENT OF THE USA AND THE GOVERNMENT OF SWITZERLAND CONCERNING CIVIL USES OF ATOMIC ENERGY) IS OF PARTICULAR IMPORTANCE TO SWITZERLAND.

### 2.2 RESEARCH

2.2.1 THE BILATERAL AGREEMENT PROVIDES FOR COOPERATION IN THE RESEARCH EFFORT. THE COOPERATION USA-FEDERAL REPUBLIC OF GERMANY-SWITZERLAND IN THE DOMAIN OF ADVANCED NUCLEAR REACTORS OF THE TYPE GAS-TURBINE HIGH TEMPERATURE GAS-COOLED REACTOR (KNOWN UNDER THE ACRONYM HTGR) IS PARTICULARLY APPRECIATED. IT INVOLVES AN EXCHANGE OF INFORMATION AND EXPERIENCE ABOUT PROGRAMS DEVELOPED ON BOTH SIDES OF THE ATLANTIC. ON THE AMERICAN SIDE, GENERAL ATOMIC (GULF) IS PARTICIPATING IN THE PROGRAM WITH A MAJOR SUBSIDY BY ERDA. ON THE SWISS SIDE, EIR  
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PAGE 03 STATE 309491

WUERENLINGEN (FEDERAL INSTITUTE FOR REACTOR RESEARCH) IS A PARTICIPANT, WITH CONTRIBUTIONS FROM INDUSTRY (BROWN BOVERI; SULZER; ALUSUISSE). THE EUROPEAN PROTOTYPE IS UNDER CONSTRUCTION IN WEST GERMANY. SWITZERLAND'S PART ACCOUNTS FOR APPROXIMATELY 10 PER CENT.

2.2.2 THE FEDERAL INSTITUTE FOR REACTOR RESEARCH COLLABORATES WITH AMERICAN RESEARCH INSTITUTIONS ON OTHER PROGRAMS AS WELL. THE DEVELOPMENT OF ADVANCED NUCLEAR FUELS, SUCH AS URANIUM CARBIDE AND PLUTONIUM (URANIUM AND PLUTONIUM CARBIDE) IS AN EXAMPLE OF SUCH COOPERATION.

### 2.3 ENERGY

2.3.1 AT PRESENT, THE THREE SWISS NUCLEAR POWER PLANTS COVER APPROXIMATELY 20 PER CENT OF THE ELECTRICITY NEEDS OF SWITZERLAND. THIS MAKES THE SWISS THE LARGEST PER CAPITA CONSUMER OF NUCLEAR ELECTRICITY. CONSEQUENTLY, A SAFE SUPPLY OF NUCLEAR FUEL IS OF EXTREME IMPORTANCE. THE

NEXT POWER STATIONS TO BECOME OPERATIONAL IN SWITZERLAND ARE: GOESGEN, SPRING 1978; LEIBSTADT, 1980; KAISERAUGST, 1982.

#### 2.3.2 OPERATION OF SWISS NUCLEAR POWER PLANTS

THE OPERATING PLANS OF THE NUCLEAR POWER PLANTS AS A RULE, FORESEE THE ANNUAL DISPOSAL OF A PROPORTION OF THE SPENT

FUEL AND ITS REPLACEMENT WITH FRESHLY ENRICHED URANIUM. TO REMOVE THE SPENT FUEL, THE UTILITIES SHIP IT TO ONE OF THE FACILITIES OF "UNITED REPROCESSORS", EITHER IN WINDSCALE (UK) OR CAP LA HAGUE (FRANCE).

IN THE PAST, THESE SO-CALLED RETRANSFERS WERE EXECUTED WITHOUT DIFFICULTIES. HENCE, THERE WAS NO NEED FOR CONTINGENCY PLANS TO ALLOW FOR SPECIAL ADMINISTRATIVE DELAYS IN THE AUTHORIZATION OF THE RETRANSFERS, AS SUCH DELAYS WERE CONSIDERED HIGHLY IMPROBABLE. THE STORAGE POOLS ON THE SITE OF THE PLANTS WERE DIMENSIONED ACCORDINGLY. CONFIDENTIAL

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PAGE 04 STATE 309491

HOWEVER, LATELY DIFFICULTIES AROSE IN SECURING APPROVAL FOR A TRANSFER OF 23 TONS OF SPENT FUEL FROM MUEHLEBERG (SWITZERLAND) TO CAP LA HAGUE (FRANCE). THE FORM MB-10 WAS PREPARED JOINTLY BY EURATOM SUPPLY AGENCY AND THE GOVERNMENT OF SWITZERLAND, AND FORWARDED TO US-ERDA ON OCTOBER 13. SINCE THE USUAL TIME REQUIRED FOR APPROVAL WAS SIX WEEKS, THE AUTHORIZATION WAS EXPECTED FOR THE BEGINNING OF DECEMBER. IT IS STILL OUTSTANDING. ARRANGEMENTS FOR THE TRANSPORT SHOULD HAVE BEEN MADE IN EARLY DECEMBER AND ACTUAL SHIPMENTS UNDERTAKEN FROM JANUARY TO JUNE, IN ORDER TO EMPTY THE STORAGE POOL ON THE SITE OF MUEHLEBERG.

THE NEXT REFUELING (1/4 OF THE CORE) MUST TAKE PLACE IN JUNE/JULY. IF AT THAT TIME MUEHLEBERG DOES NOT DISPOSE OF SUFFICIENT FREE STORAGE CAPACITY, THE OPERATION OF THE POWER PLANT WILL BE SERIOUSLY IMPAIRED AND THE STATION MAY EVEN HAVE TO BE SHUT DOWN. TO FURTHER ILLUSTRATE THE TROUBLESOME CONSEQUENCES, TECHNICAL DETAILS, ALREADY KNOWN TO YOUR EXPERTS ARE ATTACHED FOR COMPLETENESS.

MUEHLEBERG PRODUCES 30 PER CENT OF SWITZERLAND'S NUCLEAR ELECTRICITY, OR ROUGHLY 6 PER CENT OF THE TOTAL ENERGY CONSUMPTION OF SWITZERLAND. THEREFORE, A POSSIBLE SHUT-DOWN, IN ALL LIKELIHOOD, WOULD ENTAIL POLITICAL REPERCUSSIONS, WHICH WOULD BE ESPECIALLY INOPPORTUNE AT THE TIME OF THE RATIFICATION OF THE TREATY OF NON-PROLIFERATION OF NUCLEAR WEAPONS BY SWITZERLAND.

### 3. MULTILATERAL COOPERATION

3.1 AS REGARDS ENERGY RESEARCH, SWITZERLAND TAKES AN ACTIVE PART IN VARIOUS INTERESTING PROGRAMS OF THE INTERNATIONAL ENERGY AGENCY (FOR WHICH OECD IS ACTING AS HOST ORGANIZATION). IT DEEPLY APPRECIATES THE GENEROUS OFFERS  
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PAGE 05 STATE 309491

OF COOPERATION BY THE UNITED STATES IN THIS CONTEXT.

3.2 SWITZERLAND ALSO PARTICIPATES IN THE RESEARCH WORK OF THE NUCLEAR ENERGY AGENCY OF OECD (FORMERLY EUROPEAN NUCLEAR ENERGY AGENCY), WHICH THE UNITED STATES RECENTLY JOINED.

3.3 WORK BY OTHER COMMITTEES OF OECD CONCERNING SCIENCE, EDUCATION AND ENVIRONMENT IS ALSO OF PARTICULAR RELEVANCE TO SWITZERLAND.

3.4 COOPERATION WITHIN THE FRAMEWORK OF AIEA IS GIVEN HIGH PRIORITY IN SWITZERLAND, AS CAN BE DEDUCED FROM THE ACTIVE PARTICIPATION OF DR. ZANGGER. END TEXT

BEGIN TEXT:

MEMORANDUM RE MUEHLEBERG NUCLEAR POWER PLANT (KKM)  
RE-EXPORT OF IRRADIATED FUEL (FORM MB-10)

THE REPROCESSING CONTRACT OF KKM WITH UNITED REPROCESSORS CALLS FOR YEARLY DELIVERIES OF IRRADIATED FUEL BUNDLES TO THE LA HAGUE REPROCESSING PLANT. THIS MEANS THAT 123 FUEL BUNDLES WOULD HAVE TO BE TRANSPORTED FROM MUEHLEBERG TO LA HAGUE BEFORE THE NEXT REFUELING OUTAGE SCHEDULED FOR THE END OF JULY. KKM IS OF 1966 DESIGN AND THEREFORE HAS A SMALL CAPACITY POOL FOR IRRADIATED FUEL, ACCOMMODATING JUST 300 BUNDLES, I.E. 1.25 CORES. MEASURES ARE BEING TAKEN FOR DOUBLING THE CAPACITY, BUT THE INCREASED CAPACITY WILL ONLY BE AVAILABLE FOR THE 1978 REFUELING.

WHILE THE 123 BUNDLES NOW IN THE POOL ALREADY SEVERELY LIMIT FREEDOM OF ACTION IN CASE OF AN EMERGENCY, THE SITUATION WOULD BECOME INTOLERABLE, IF THEY CANNOT BE REMOVED AT THE TIME OF THE NEXT REFUELING WHEN ANOTHER  
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PAGE 06 STATE 309491

60 BUNDLES - EVEN MORE LATER - MUST BE TAKEN OUT OF THE REACTOR AND ALSO PLACED IN THE POOL. FURTHERMORE, IT WOULD BE VERY DIFFICULT, IF NOT AT ALL IMPOSSIBLE, TO IMPLEMENT THE MEASURES FOR DOUBLING POOL CAPACITY WHEN THE POOL IS MORE THAN 50 PER CENT OCCUPIED BY IRRADIATED FUEL.

KKM AS MADE GREAT EFFORTS, AND IT IS BELIEVED WITH FAIR SUCCESS, TO RAISE THE SAFETY AND ENVIRONMENTAL COMPATABILITY OF THE NUCLEAR PLANT TO THE HIGHEST PRACTICABLE LEVEL, WHICH, IN THEIR OPINION, IS NOT ONLY IN THEIR INTEREST, BUT IN THAT OF THE USA, AS THE SUPPLIER OF THE PLANT, AS WELL.

THE MATTER IS URGENT. THE TRANSPORT SCHEDULES DEPEND ON THE GRANTING OF THE MB 10 PERMITS AND MUST BE ESTABLISHED IN EARLY DECEMBER.

SIGNED - DR. CHRISTIAN FAVRE, SCIENTIFIC COUNSELOR,  
EMBASSY OF SWITZERLAND, WASHINGTON,D.C. DECEMBER 1, 1976  
END TEXT

2. IN THEIR COMMENTS, BOTH MR. IRVING AND MR. KRATZER INDICATED THAT A DECISION ON THE MUEHLEBERT SPENT FUEL TRANSFER REQUEST COULD BE EXPECTED VERY SHORTLY, AND THAT IT WOULD BE FAVORABLE.

ROBINSON

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## Message Attributes

**Automatic Decaptioning:** X  
**Capture Date:** 01 JAN 1994  
**Channel Indicators:** n/a  
**Current Classification:** UNCLASSIFIED  
**Concepts:** NPT, TEXTS, DIPLOMATIC COMMUNICATIONS, NUCLEAR SAFEGUARDS, FISSIONABLE MATERIALS TRANSFER  
**Control Number:** n/a  
**Copy:** SINGLE  
**Draft Date:** 22 DEC 1976  
**Decaption Date:** 01 JAN 1960  
**Decaption Note:**  
**Disposition Action:** RELEASED  
**Disposition Approved on Date:**  
**Disposition Authority:** saccheem  
**Disposition Case Number:** n/a  
**Disposition Comment:** 25 YEAR REVIEW  
**Disposition Date:** 28 MAY 2004  
**Disposition Event:**  
**Disposition History:** n/a  
**Disposition Reason:**  
**Disposition Remarks:**  
**Document Number:** 1976STATE309491  
**Document Source:** CORE  
**Document Unique ID:** 00  
**Drafter:** RCASAGRANDE:EM  
**Enclosure:** n/a  
**Executive Order:** GS  
**Errors:** N/A  
**Film Number:** D760470-0418  
**From:** STATE  
**Handling Restrictions:** n/a  
**Image Path:**  
**ISecure:** 1  
**Legacy Key:** link1976/newtext/t19761219/aaaaaqgz.tel  
**Line Count:** 251  
**Locator:** TEXT ON-LINE, ON MICROFILM  
**Office:** ORIGIN EUR  
**Original Classification:** CONFIDENTIAL  
**Original Handling Restrictions:** n/a  
**Original Previous Classification:** n/a  
**Original Previous Handling Restrictions:** n/a  
**Page Count:** 5  
**Previous Channel Indicators:** n/a  
**Previous Classification:** CONFIDENTIAL  
**Previous Handling Restrictions:** n/a  
**Reference:** n/a  
**Review Action:** RELEASED, APPROVED  
**Review Authority:** saccheem  
**Review Comment:** n/a  
**Review Content Flags:**  
**Review Date:** 10 NOV 2003  
**Review Event:**  
**Review Exemptions:** n/a  
**Review History:** RELEASED <10 NOV 2003 by GarlanWA>; APPROVED <29 SEP 2004 by saccheem>  
**Review Markings:**

Margaret P. Grafeld  
Declassified/Released  
US Department of State  
EO Systematic Review  
04 MAY 2006

**Review Media Identifier:**  
**Review Referrals:** n/a  
**Review Release Date:** n/a  
**Review Release Event:** n/a  
**Review Transfer Date:**  
**Review Withdrawn Fields:** n/a  
**Secure:** OPEN  
**Status:** NATIVE  
**Subject:** SPENT FUEL TRANSFER FROM MUEHLEBERG POWER STATION  
**TAGS:** ENRG, TECH, PFOR, SZ, US  
**To:** BERN  
**Type:** TE  
**Markings:** Margaret P. Grafeld Declassified/Released US Department of State EO Systematic Review 04 MAY 2006